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Scats (feces) from Steller sea lions (SSLs) were collected on 18 rookeries during 1998 and 2000 to compare relative levels and profiles of selected organochlorine (OC) contaminants between the thriving eastern stock in Southeast Alaska (SEA) and the depleted western stock [Gulf of Alaska (GOA) and eastern Aleutian Islands (EAI)]. We hypothesized that the congener profiles of feces could be used to detect differences OC burdens of SSLs in different regions. Matched sets of feces, blood, and blubber samples from wild pups and juveniles captured in SEA and GOA as well as from captive adults were collected and analyzed. These sets were used to evaluate relationships of contaminant levels and composition in the three media and validate the utility of the rookery scat analysis as a non-invasive monitoring tool. Samples were analyzed for selected congeners of polychlorinated biphenyls (PCBs) and DDT metabolites by high performance liquid chromatography. We also examined the utility of porphyrin profiles in feces as a biomarker of environmental contaminant exposure. Blood levels of individual PCBs congeners and DDT metabolites were highly correlated with blubber levels. In contrast, feces were not well correlated with blubber or blood congener profiles. Fecal OC levels reflect recent dietary intake and excreted PCB congeners not metabolized or retained in the body. OC contamination in SSLs from EAI was significantly higher than in the GOA and SEA. Congener profiles were distinctly different and distinguishable by discriminant modeling. The mean ratio of porphyrin metabolites in scats were correlated with OC levels and thus may be an economical biomarker of OC exposure. Our findings indicate that adverse effects of organic environmental contaminants must be considered as contributing factors in the continuing decline of the western stock of SSLs. Based on these data, additional, extensive, effects-based contaminant research on SSLs is warranted.

Organochlorine Contaminants in Live Steller Sea Lions, *Eumetopias jubatus*

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